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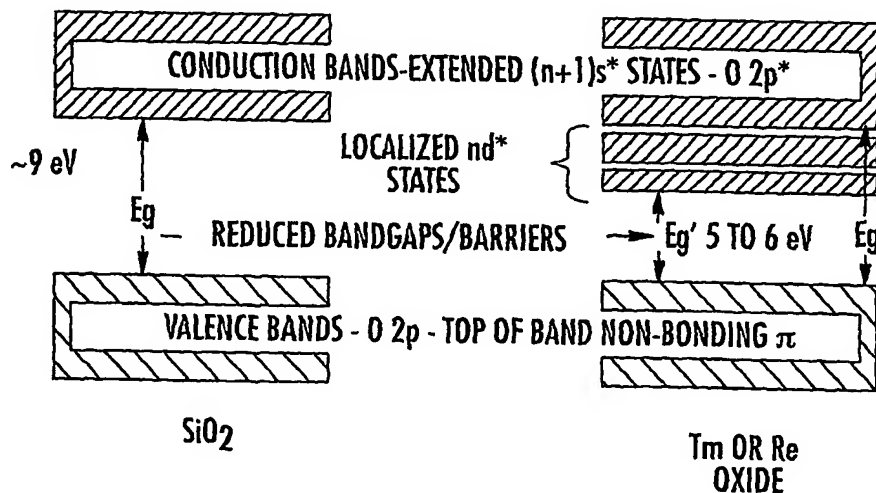
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(54) Title: COMPLEX OXIDES FOR USE IN SEMICONDUCTOR DEVICES AND RELATED METHODS



(57) Abstract: A semiconductor device includes a semiconductor substrate, a first oxide layer on the semiconductor substrate including an element from the semiconductor substrate, and a second oxide layer on the first oxide layer opposite the semiconductor substrate. The second oxide layer includes a stoichiometric, single-phase complex oxide represented by the formula: $A_m B_q O_r$, or equivalently $(A_m O_n)_a (B_q O_r)_b$ in which the elemental oxide components, $(A_m O_n)_a$ and $(B_q O_r)_b$ are combined so that $h = j$ or, equivalently, $ma = bq$, and a, b, h, j, k, m, n, q and r are non-zero integers; and wherein: A is an element of the lanthanide rare earth elements of the periodic table or the trivalent elements from cerium to lutetium; and B is an element of the transition metal elements of groups IIIB, IVB or VB of the periodic table.



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